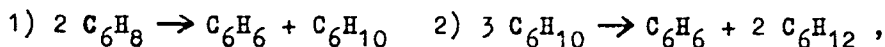5(3)

AUTHORS: Freydlin, L. Kh., Polkovnikov, B. D.,   SOV/62-59-5-23/40
Yegorov, Yu. P.

TITLE: Consecutive
/Hydrogenation Sequence of the Double Bonds of
Cyclohexadiene-1,3 and Its Irreversible Catalysis
on Pt- and Pd-Blacks (Posledovatel'nost' gidrirovaniya
dvoynykh svyazey tsiklogeksadiyena-1,3 i yego neobratimyy
kataliz na Pt- i Pd-chernyakh)

ABSTRACT: The process of the hydrogenation of cyclohexadiene mentioned
in the title has not yet been completely investigated.
Zelinskiy and Pavlov (Ref 6) were the first to find
out that it develops in two stages:

1) $2 C_6H_8 \rightarrow C_6H_6 + C_6H_{10}$ 2) $3 C_6H_{10} \rightarrow C_6H_6 + 2 C_6H_{12}$,

the second stage developing much more slowly than the first.
In this paper this process is investigated under conditions
which render the simultaneous hydrogenation and irreversible
catalysis possible. It is found that in the presence of

Card 1/3

Consecutive
/Hydrogenation Sequence of the Double Bonds of   SOV/62-59-5-23/40
Cyclohexadiene-1,3 and Its Irreversible Catalysis on Pt- and Pd-Blacks

Pt- and Pd-black in alcohol and in n. heptane at 25° the
unsaturated bonds of cyclohexadiene-1,3 are hydronenized
in stages. First, the entire cyclohexadiene-1,3 is
converted into cyclohexane, and then hydrogen is linked on
with the formation of cyclohexane. This formation is
accompanied by hydrogen distributing reaction with the
formation of cyclohexene and benzene (irreversible catalysis).
The individual reaction data of the hydrogenation mentioned
are shown in a table. The conditions of the reaction rates
hydrogenation and irreversible catalysis depend on the nature
of the catalyst (Figs 1, 2). In the presence of Pt-black the
hydrogenation reaction predominates, and in Pd-black the
irreversible catalysis. The total scheme of the reactions
is the following:
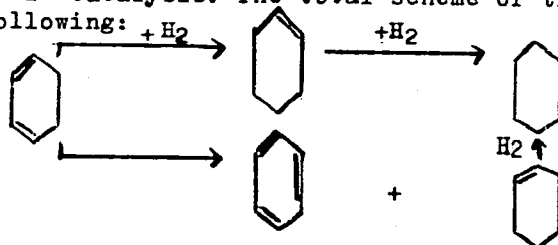
Card 2/3

· ˙Consecutive
/Hydrogenation Sequence of the Double Bonds of   SOV/62-59-5-23/40
Cyclohexadiene-1,3 and Its Irreversible Catalysis on Pt- and Pd-Blacks

                There are 2 figures, 1 table, and 14 references, 12 of
                which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
                nauk SSSR (Institute for Organic Chemistry imeni N. D.
                Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 12, 1957

Card 3/3

5 (3)
AUTHORS: Freydlin, L. Kh., Polkovnikov, B. D.   SOV/62-59-6-25/36

TITLE: Hydration Kinetics of Cyclopentadiene and Cyclopentene on a
Nickel Skeleton Catalyst (Kinetika gidrirovaniya tsiklo-
pentadiyena i tsiklopentena na skeletnom nikelevom katalizatore)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 6, pp 1106 - 1110 (USSR)

ABSTRACT: In a previous paper (Ref 1), it was shown that hydration of
cyclopentadiene double bonds occur one after another and at
different rates:

The course which these two hydration reactions take is shown
in figure 1. It was the aim of the present paper to investi-
gate the kinetics of both reactions. For this purpose, fresh-
ly prepared cyclopentadiene was used. Solvents were cyclohex-
ane and ethylalcohol, as catalysts Ni-Al-alloys were used. At
first the conditions were determined, under which the reactions
take place in the kinetic field (Table 1 Experiments 1-10). By
these experiments it was found that the reactions proceeded

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Hydration Kinetics of Cyclopentadiene and Cyclopentene   SOV/62-59-6-25/36
on a Nickel Skeleton Catalyst

most readily in case of an intensive stirring of 900-1000/mi-
nute. Data on the influence exercised by the catalyst quantity
upon the reactions mentioned are compiled in table 2. They
prove an increase in the reaction rate which is directly pro-
portional to the increase in catalyst quantity. The half-value
period of the reaction is shortened from 7.2 to 2.5 if the ca-
talyst quantity is increased from 0.42 to 1.26 g. The order of
the hydration reaction was also investigated, and it showed
that in the first section both the hydration curves of cyclo-
pentadiene and cyclopentene follow a course of zero- or nearly
zero-order. The investigations into the influence of the con-
centration of the initial substance upon the reaction rate
served as proof for the reaction curves of zero order (Table
3). Last but not least, the temperature dependence of the two
hydration reactions (cyclopentadiene and -pentene) in the range
of from 5-40 and 7-30° was investigated. The rate constant of
the first stage proved to be higher than that of the second
stage. The temperature coefficients differ a little while the
activation energies of both reactions are nearly the same. It
Card 2/3   follows therefrom that the succession of the double bond hy-

Hydration Kinetics of Cyclopentadiene and Cyclopentene   SOV/62-59-6-25/36
on a Nickel Skeleton Catalyst

>   dration in cyclopentadiene must not be explained by different
>   activation energies. There are 5 figures, 4 tables, and 2
>   Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
               nauk SSSR (Institute of Organic Chemistry imeni N. D.
               Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: October 12, 1957

Card 3/3

5.3200

78057
SOV/62-60-1-3/37

AUTHORS: Balandin, A. A., Brusov, I. I., Polkovnikov, B. D.

TITLE: Kinetics of 2-Vinylpyridine Hydrogenation Over Raney's
             Catalyst

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimi-
             cheskikh nauk, 1960, Nr 1, pp 15-20 (USSR)

ABSTRACT: This paper presents experimental data on kinetics of
             2-vinylpyridine hydrogenation over Raney nickel in
             96% ethyl alcohol at temperatures from 5 to 40°, under
             atmospheric pressure. The results obtained are shown
             in the figures, where $\dfrac{\Delta V_0}{\Delta t}$ (a) is the total volume
             of hydrogen absorbed and $\dfrac{\Sigma \Delta V_0 t}{2}$ (b) the volume
             of H_2 absorbed, and reduced to standard conditions.
             Effect of styrene concentration on the rate of its
             hydrogenation was also studied; the results are shown
             in Fig. 6.

Card 1/7

Kinetics of 2-Vinylpyridine Hydrogenation   78057
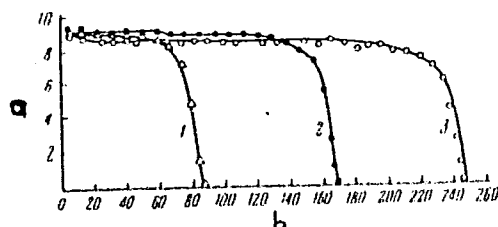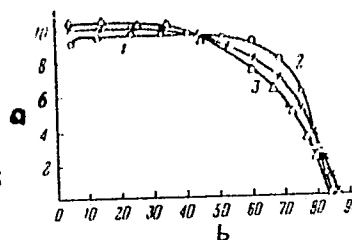Over Raney's Catalyst   SOV/62-60-1-3/37

Fig. 1.   Effect of 2-vinylpyridine concentration on the
rate of hydrogenation:(1) 0.3987 g; (2) 0.7976 g;
(3) 1.1949 g (a and b given in text).

Fig. 2. Effect of the
products of reaction on the
rate of 2-vinylpyridine
hydrogenation. (1) without
addition of the products;
(2) on repeated hydrogenation;
(3) with addition of 2 ml
of 2-ethylpyridine (a and b
are explained in text).

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Kinetics of 2-Vinylpyridine Hydrogenation
Over Raney's Catalyst

78057
SOV/62-60-1-3/37

Fig. 3. Effect of solvent
on hydrogenation of
2-vinylpyridine: (1) in
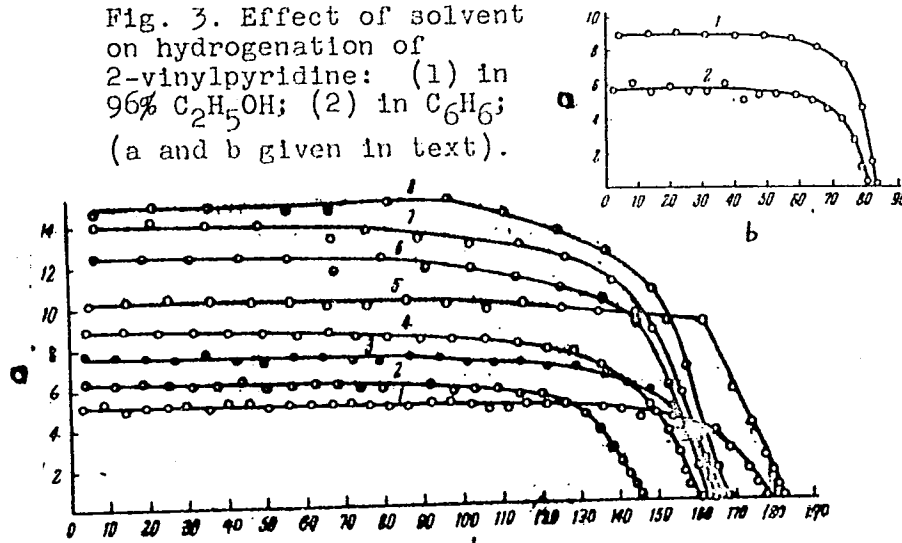96% C_2H_5OH; (2) in C_6H_6;
(a and b given in text).

Fig. 4

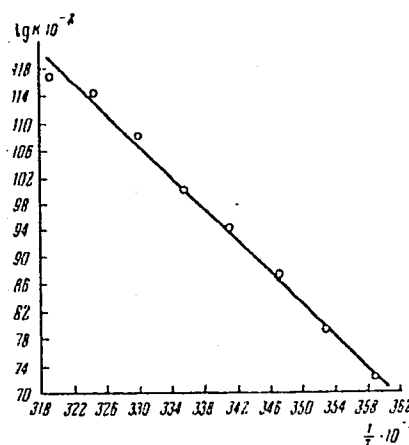Card 3/7   (Caption for Fig. 4 on Card 4/7)

Kinetics of 2-Vinylpyridine Hydrogenation
Over Raney's Catalyst

78057
SOV/62-60-1-3/37

Fig. 4. Kinetics curves of 2-vinylpyridine hydro-
genation at various temperatures: (1) 5.4°; (2) 10°;
(3) 15°; (4) 20°; (5) 25°; (6) 30°; (7) 35°; (8) 40°
(a and b.given in text).

Fig. 5. Dependence of
the log of rate constant
on temperature.

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Kinetics of 2-Vinylpyridine Hydrogenation
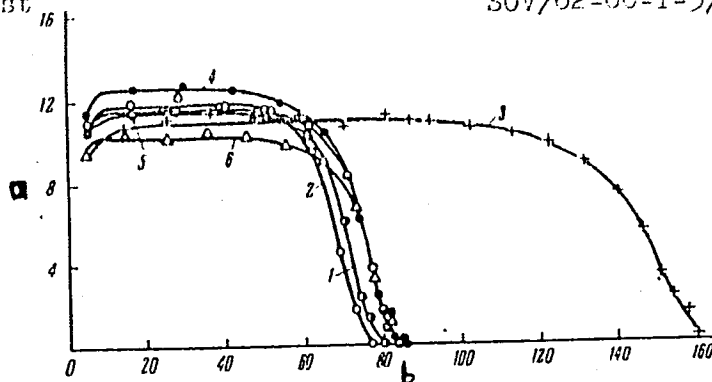Over Raney's Catalyst

78057
SOV/62-60-1-3/37

Fig. 6. Hydrogenation of styrene. (1) 0.3875 g;
(2) 0.3875 g; (3) 0.7750 g; (4) 0.4135 g; (5) 0.4135 g;
(6) 0.4135 (in this case another catalyst was used)
(a and b given in text).

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Kinetics of 2-Vinylpyridine Hydrogenation   78057
Over Raney's Catalyst   SOV/62-60-1-3/37

The following conclusions were made: Hydrogenation of
2-vinylpyridine proceeds rapidly in 96% ethyl alcohol;
in benzene the reaction is about 1.6 times slower.
The rate of reaction increases about 3 times with in-
creasing temperature from 5 to 40°. At these tempera-
tures the reaction follows first order kinetics. The
true energy of activation is equal to 5.6 kcal/mole.
Hydrogenation of styrene under similar conditions is
also a first order reaction. Substitution of one
hydrogen atom in ethylene by an α-pyridyl radical
has the same effect on the rate of hydrogenation over
Raney nickel as substitution by a phenyl radical.
There are 5 tables; 6 figures; and 7 references, 1
U.S., 1 Polish, 5 Soviet. The U.S. reference is: E. C.
Card 6/7   Gregg, D. Craig, J. Am. Chem. Soc., 70, 3138 (1948).

Kinetics of 2-Vinylpyridine Hydrogenation   78057
Over Raney's Catalyst   SOV/62-60-1-3/37

ASSOCIATION: N. D. Zelinskiy Institute of Organic Chemistry Academy
                of Sciences USSR (Institut organicheskoy khimii imeni
                N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: April 25, 1958

Card 7/7

KHIDEKEL', M.L.; POLKOVNIKOV, B.D.; TABER, A.M.; BALANDIN, A.A.

Catalytic hydrogenation of quinones in the presence of Pt, Pd, and Rh catalysts. Izv. AN SSSR. Ser. khim. no.3:542-543 '65.   (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR i Institut khimicheskoy fiziki AN SSSR.

BALANDIN, A.A.; POLKOVNIKOV, B.D.; TABER, A.M.; TARSHIS, I.G.

Effect of amines on the activity and selectivity of a skeletal nickel catalyst. Izv. AN SSSR. Ser. khim. no.7:1151-1160 '65. (MIRA 18:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

POLKOVNIKOV, B.D.; BALADIN, A.A.; TABER, A.M.

Boron-promoted palladium and platinum skeleton catalysts. Izv.
AN SSSR.Ser.khim. no.2:267-270 F '64.   (MIRA 17:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

GEYKO, N.S.; KRETOVICH, V.L.; POLKOVNIKOV, B.D.; BALANDIN, A.A.,
         akademik; TABER, A.M.

Determination of keto acids by the reduction of 2,4-dinitro-
phenyl hydrazones. Dokl. AN SSSR 153 no.1:209-211 N '63.
                                        (MIRA 17:1)

1. Moskovskiy tekhnologicheskiy institut pishchevoy
promyshlennosti i Institut organicheskoy khimii AN SSSR.
2. Chlen-korrespondent AN SSSR (for Kretovich).

TABER, A.M.; BALANDIN, A.A. akademik; SOKOL'SKIY, D.V., akademik;
    POLKOVNIKOV, B.D.

    Charging curves of the boride catalysts of Pt-group metals.
    Dokl. AN SSSR 152 no.2:379-381 S '63.   (MIRA 16:11)

    1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
    2. AN KazSSR (for Sokol'skiy)

TABER, A.M.; POLKOVNIKOV, B.D.; MAL'TSEVA, N.N.; MIKHEYEVA, V.I.;
    BALANDIN, A.A., akademik

Study of catalysts produced by the reaction of sodium borohydride
with salts of heavy metals. Dokl. AN SSSR 152 no.1:119-121 S
'63.   (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
            (Catalysts) (Sodium borohydride) (Salts)

POLKOVNIKOV, B.D.; BALANDIN, A.A., akademik; TABER, A.M.

Catalytic properties of platinum metal borides. Dokl.AN SSSR
145 no.4:809-811 Ag '62.   (MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
    (Borides)   (Platinum metals)   (Catalysis)

BAIANDIN, A.A., akademik; KARPEYSKAYA, Ye.I.; POLKOVNIKOV, B.D.

Rhenium as a catalyst of hydrogenation. Dokl. AN SSSR 139
no.5:1101-1104 Ag.' '61.   (MIRA 14:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo
AN SSSR.
           (Rhenium) (Hydrogenation)

FREYDLIN, L.Kh.; POLKOVNIKOV, B.D.; GORSHKOV, V.I.

Catalytic hydrogenation of dimethylvinylethynylcarbinol. Izv.
AN SSSR, Otd.khim.nauk no.6:1120-1127 Je '61.   (MIRA 14:6)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
            (Alcohols)   (Hydrogenation)

25045
S/062/61/000/006/007/010
B118/B220

5 3400

AUTHORS: Freydlin, L. Kh., Polkovnikov, B. D., and Gorshkov, V. I.

TITLE: Catalytic hydrogenation of dimethyl vinyl ethynyl carbinol

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
             nauk, no. 6, 1961, 1120-1127

TEXT: The synthesis of dienes by selective catalytic hydrogenation of the
obtainable vinyl acetylene hydrocarbons and alcohols concentrated, up to
the present time, primarily on the hydrogenation of dimethyl vinyl
ethynyl carbinol. Following their study (Ref. 7: Izv. AN SSSR, Otd.
khim. n., 1944, 71) the authors made an attempt to synthesize the diene
alcohol by selective hydrogenation, using a nickel skeleton catalyst
poisoned by pyridine and a zinc skeleton catalyst behaving selectively on
hydrogenation of enin hydrocarbons to enins. The hydrogenation of di-
methyl vinyl ethynyl carbinol with addition of 1 to 3 moles of hydrogen
was effected in methanol solution in the autoclave. The excess hydrogen
was eliminated. The catalyst was washed with methyl alcohol. The methanol
solution was added to the catalyzate; then, fractionation was effected

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S/062/61/000/006/007/010
B118/B220

Catalytic hydrogenation of dimethyl vinyl...

after separation of the methanol. Since quantitative methods of determination for dimethyl vinyl ethynyl carbinol and its hydrogenation products had not been developed so far, the content of carbinol in the fractions was determined according to the amount of vinyl acetylene which forms due to the effect of metallic sodium. In the presence of the nickel skeleton catalyst, the addition of one mole of hydrogen to dimethyl vinyl ethynyl carbinol does not proceed selectively: A mixture forms, which contains the initial carbinol as well as the diene and ethylene alcohol. The partial poisoning of the catalyst surface by pyridine did not result in a considerable increase of the yield in diene alcohol. In the presence of the zinc skeleton catalyst, dimethyl vinyl ethynyl carbinol is hydrogenated selectively to form dimethyl butenyl carbinol. After addition of one mole of hydrogen, the catalyzate contains about 70 % of diene alcohol. Thus, the zinc catalyst develops the highest selective activity in this reaction. B. V. Lopatin and the woman-student I. Mikhel'son are thanked for taking the spectra and for their assistance. T. N. Nazarov, L. B. Fisher, and Kh. V. Bal'yan are mentioned. There are 4 figures, 2 tables, and 11 references: 8 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: E. B. Bates, E. R. H. Jones,

Card 2/3

25045

S/062/61/000/006/007/010
B118/B220

Catalytic hydrogenation of dimethyl vinyl...

M. C. Whitung, J. Chem. Soc. 1954, 1954.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo SSSR
(Institute of Organic Chemistry imeni N. D. Zelinskiy USSR)

SUBMITTED: July 11, 1960

Fig. 1: Hydrogenation of
dimethyl vinyl ethynyl
carbinol (curves 1-2) and
dimethyl butenyl carbinol
(curve 3) on the nickel
skeleton catalyst at 25°C.
Legend: 1) 0.2574 g in
10 ml CH_3OH; 2) 0.2402 g in
10 ml C_2H_5OH; 3) 0.7134 g
in 10 ml C_2H_5OH; a) ml;
b) ml/0.5 min; c) section.

Card 3/3

Fig. 1
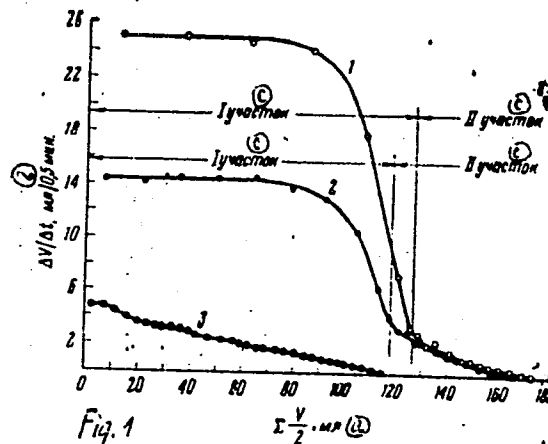
FREYDLIN, L.Kh.; POLKOVNIKOV, B.D.

Effect of pyridine on the rate and selectivity of tolan and cyclo-
pentadiene hydrogenation over porous nickel or platinum-black
catalysts. Izv. AN SSSR Otd. khim. nauk no.12:1502-1504 D '56.
(MLRA 10:4)

1. Institut organicheskoy khimii im. Zelinskego Akademii nauk SSSR.
   (Acetylene)   (Cyclopentadiene)   (Hydrogenation)

KLYSHKO, D.N.; PENIN, A.N.; POLKOVNIKOV, B.F.; TUMANOV, V.S.

Induced Raman scattering in the microwave region. Vest. Mosk. un. Ser. 3: Fiz., astron. 20 no.6:43-48 N-D '65.
(MIRA 19:1)

1. Kafedra radiotekhniki Moskovskogo universiteta. Submitted June 26, 1964.

L 10951-66   FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(m)-2/EWA(h)   SCTB/IJP(c)   WG/GG

ACC NR: AP6002286   SOURCE CODE: UR/0188/65/000/006/0043/0048

AUTHOR: Klyshko, D. N.; Penin, A. N.; Polkovinikov, B. F.; Tumanov , V. S.

ORG: Moscow University. Department of Radio Engineering (Moskovskiy universitet, kafedra radiotekhniki)

TITLE: Stimulated Raman scattering in the radio-frequency range

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1965, 43-48

TOPIC TAGS: Raman scattering, combination scattering, scattering matrix, radio wave scattering, laser, Raman effect, magnetic field, photon, microwave

ABSTRACT: An investigation was made of 1) the stimulated microwave Raman scattering at various orientations of a constant magnetic field H_0 in a plane formed by two mutually perpendicular fields H_1 and H_2, and 2) three-photon absorption when two of the photons have different frequencies. Two methods were used to analyze the two-photon processes: 1) the quasi-classical method, using equations for the density matrix and the nonquantized field, and 2) the probability method. The density matrix method was used to derive a formula for the magnetization vector of a two-level spin system in a strong field oriented perpendicularly to a constant field, and in a weak field oriented parallel to the field. The probability method was used in deriving the formula for the probability of three-photon ab-sorption. The experiments were performed with a free radical of diphenyl-

Card 1/2   UDC: 538.56:530.145

L 10951-66

ACC NR: AP6002286

pycrylhydrazyl in a constant magnetic field H_0. In some of the experiments the pumping frequency $\omega_1/2\pi$ was in the range of 10 Gcps and the signal frequency $\omega_2/2\pi$ was varied from 10 to 20 Mcps. Measurements were obtained both in continuous and pulsed operation modes. In other experiments the pump and signal frequencies were 25 Mcps. The experimental and theoretical data showed that calculations of Raman effects in a two-level system were correct. It was shown that when the ratio of the intensity of stimulated Raman scattering to the general resonance absorption is small, the effect cannot be used for amplification of superhigh-frequency signals. In case of amplification during saturation, this effect can be used for amplification in the cm and especially in the mm ranges. Orig. art. has: 8 formulas and 3 figures. [JA]

SUB CODE: 40, 17 / SUBM DATE: 26Jun64/ ORIG REF: 006/ OTH REF: 015/
ATD PRESS: 4/70

Roman Laser 25,44

Card 2/2

BAYEV, N.V.; BOBROV, Ye.G.; DEMIDOV, G.A.; DENISOV, A.D.; ZHUKOV, N.Ya.;
  LELEKOV, Yu.S.; POZDNYAKOV, I.M.; POLKOVNIKOV, B.M.; TRIBURT, I.I.;
  TYURIKOV, A.A.; SHESTAKOV, A.I., inzh.; PESKOVA, L.N., red.;
  KHITROVA, N.A., tekhn. red.

[Advanced technology on railroads] Peredovaia tekhnologiia na
zheleznoi doroge. Moskva, Vses. izdatel'sko-poligr. ob"edine-
nie M-va putei soobshcheniia, 1961. 84 p.   (MIRA 14:12)
                         (Railroads)

POLKOVNIKOV, B.M. (Omsk).

     Experience in the operation of technical car inspection points
on the Omsk railroad. Zhel. dor. transp. 41 no.1:80-83 Ja '59.

                                                  (MIRA 12:1)

    1.Glavnyy inzhener sluzhby vagonnogo khozyaystva Omskoy dorogi.
(Omsk Province--Railroads--Cars--Maintenance and repair)

POLKOVNIKOV, V.S., kand.tekhn.nauk, dots.

Designing rope fastening on drums. Izv.vys.ucheb.zav.;
mashinostr. no.6:128-132 '58.   (MIRA 12:8)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana.
                (Hoisting machinery)

GURAL'NIK, Izrail' Iosifovich; MAMIKONOVA, Sof'ya Vartanovna; POLKOVNI-
    KOV, Maksim Andreyevich; KAROL', B.P., otv.red.; PISAREVSKAYA,
    V.D., red.; PROTOPOPOV, V.S., red.; FLAUM, M.Ya., tekhn.red.

[Problems in meteorology] Zadachnik po meteorologii. Lenin-
grad, Gidrometeor.izd-vo, 1959.   251 p.   (MIRA 13:2)
          (Meteorology--Problems, exercises, etc.)

POLKOVNIKOV, V.F.

 Prospects for the expansion of open pit coal mining in the
Krasnoyarsk Territory. Ugol' 39 no.8:47-48 Ag '64.
          (MIRA 17:10)

l. Zamestitel' nachal'nika kombinata Krasnoyarskugol'.

L 18641-63   EWT(1)/BDS/ES(v)   AFFTC/ASD   Pe-4
                                                 S/0124/63/000/008/B038/B038
ACCESSION NR: AR3006435   56

SOURCE: RZh. Mekhanika, Abs. 8B218

AUTHOR: Polkovnikov, V. I.

TITLE: Choice of angle of adjustment and programming the thrust of booster rockets
on an airplane

CITED SOURCE: Tr. Kazansk. aviats. in-ta, vy*p. 71, 1962, 78-96

TOPIC TAGS: airplane booster rocket, thrust, booster rocket, engine failure, jet,
takeoff, Meyer apparatus

TRANSLATION: Booster rockets which insure a takeoff safety against breakdown of
the main engines are considered. The influence of various factors on the magni-
tude of the optimal angle on the aircraft of the booster rocket apparatus is ex-
plained, and also, their thrust after the takeoff of the plane until it reaches a
safe height is programmed. It is assumed that the rockets are switched on at the
moment of breakdown of the main engines during the takeoff of the aircraft from the
ground, the plane after takeoff moves along a rectilinear path, the speed of
exhaust of the gases from the rocket nozzle is great in comparison with the speed

Card   1/2

L 18641-63
ACCESSION NR: AR3006435   *0*

of the plane, the weight of the plane changes due to the combustion of the rocket fuel, and the density of air and the aerodynamic coefficients are constant. The rocket problem is solved in a Meyer apparatus, with which the condition of minimum rocket fuel load is sought. Toward this end, three cases are considered: 1) the angle of the rocket device is varied according to the volume of the aircraft, 2) the angle is kept constant, 3) the rocket thrust is a previously given function of time. In the first two cases the thrust must be diminished according to the volume of the aircraft. At constant thrust in the third case, the angle of the device changes little according to the volume of the plane. In the first case the angle of the device must continuously increase. In the third case, for some values of the rocket thrust depending on the thrust of the main engines and the aerodynamic properties of the plane, the optimal angle of the device remains constant in time. However, in this case, the speed of the plane quickly diminishes. G. S. Aronin

DATE ACQ: 28Aug63   SUB CODE: AE, AC   ENCL: 00

Card   2/2

POLKOVNIKOV, V.I.

Selection of the setting angle and programming the thrust of
the auxiliary rockets on an airplane. Trudy KAI no.71:78-96
'62.   (MIRA 18:5)

10.1200

10.1230

S/147/62/000/001/002/015
E195/E435

AUTHORS: Kostychev, G.I., Polkovnikov, V.I.

TITLE: Some variational problems in gas dynamics for motions other than steady-state

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika, no.1, 1962, 11-18

TEXT: Many papers exist which deal with the determination of optimum values of missile design parameters, but which are applicable only to steady-state conditions. The solutions thus obtained do not apply to non-steady states which characterize the conditions during actual flight. In a previous paper (Ref.1: Ibid, no.4, 1961) the author dealt with such problems, where aerodynamic characteristics were in the form

$$Q = \int_0^1 \varphi[u_i(t), \; r_j(\xi)]\, d\xi \qquad \binom{i=1,\ldots n}{j=1,\ldots m}. \qquad (0.1)$$

and the equation of motion

$$\int_0^1 f_k(u_i, \; r_j)\, d\xi = 0, \qquad (0.2)$$

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S/147/62/000/001/002/015
E195/E435

Some variational problems ...

where $u_j(t)$ - control functions connected with the motion of the missile (speed, mass etc); $r_j(\xi)$ - functions which are independent of time which characterize the constructional data of the missile; (ξ [01] - connected with construction of the coordinate). This article is devoted to the consideration of the influence of motion regime on the optimum shape of a missile and some generalization of the problems formulated in the previous work. Starting from the Euler-Lagrange equations for several variables and defining a pressure coefficient for the head of solid of revolution

$$c_p = a_1 r'^2 \left[1 + \beta_1 \left(\frac{a}{vr'}\right)^{3/2}\right].$$ (1.1)

and

$$Q = a_1 \pi \rho v^2 \int_0^1 \left[1 + \beta_1 \left(\frac{a}{vr'}\right)^{3/2}\right] rr'^2 \, d\xi.$$ (1.2)

Card 2/6

S/147/62/000/001/002/015
E195/E435

Some variational problems ...

where α_1 and β_1 — constant coefficients; v and a — velocity and velocity of sound of the free stream; r' — tangent of the angle of the tangent to a point on the surface of the body, the authors derive in a parametric form the equations of the body profile

$$r = \frac{c}{p^6 + \delta p^3},$$ (1.8)

$$\xi = c\left\{\frac{3}{5\delta p^5} + \frac{p}{\delta'(p^3 + \delta)} + \right.$$

$$\left. + \frac{1}{\sigma^{8/3}}\left[\frac{1}{3}\ln\frac{(p + \sqrt[3]{\sigma})^3}{p^3 + \sigma} + \frac{2}{\sqrt{3}}\operatorname{arc tg}\frac{p\sqrt{3}}{2\sqrt[3]{\sigma} - p}\right]\right\} + c_1.$$ (1.9)

where $p^2 = r'$.   For a given law of motion $v = f(t)$, the parameter σ is known and the arbitrary constants c and c_1 are determined by the boundary conditions $r(0) = r_0$, $r(1) = r_1$. In transition from one regime to another the body profile will change because of variation in σ.   With velocity constant

Card 3/6

Some variational problems ...

$v = f(t) = v_0$, then

$$\sigma = \frac{\beta}{4} v_0^{-3/2} = \frac{\beta_1}{4} M_0^{-3/2}$$

With a given law of resistance, for every motion regime, same optimum body profile may be obtained by a judicious selection of "mean" velocity

$$v_{cp}^{3/2} = \frac{\int_0^T [f(t)]^3 \, dt}{\int_0^T [f(t)]^{3/2} \, dt}.$$

The plot of the body profiles of solids of revolution, in accordance with laws: $M_1 = 25t + 5$ and $M_2 = (153.13t^3 + 11.18)^{2/3}$ is shown in Fig.2 (r vs ξ , parabola) these profiles will be

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Some variational problems ...   S/147/62/000/001/002/015
E195/E435

optimum for a motion with constant Mach numbers
M_1 mean = 22.09, M_2 mean = 19.69. In this example the nose and
transition to the cylindrical section are not included. The
authors extend the method to the problem of vertical flight, in
particular the determination of optimum body profile for given
initial and final velocities, so that maximum vertical rise is
achieved. They conclude by considering the case of a single
missile subject to flying regimes of varying relative frequency.
There are 2 figures.

ASSOCIATION: Kazanskiy aviatsionnyy institut, Kafedra aerodinamiki
             (Kazan' Aviation Institute, Department of Aerodynamics)

SUBMITTED: April 11, 1961

Card 5/6

L 4543-66   ARC/EWT(d)/FBD/EWT(1)/FBO/EWT(m)/FA/EWP(c)/EWP(h)/FCS(k)/ETC(m)   JD/WW

ACC.NR: AT5023188   SOURCE CODE: UR/2529/62/000/071/0078/0096

AUTHOR: Polkovnikov, V. I.

ORG: Kazan Aviation Institute (Aviatsionnyy institut. Kazan)

TITLE: Selection of mounting angle and thrust programming of an auxiliary rocket on aircraft

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 71, 1962. Matematika i mekhanika, 78-96

TOPIC TAGS: aircraft, thrust augmentation, take off assist device, rocket, variational calculus

ABSTRACT: Auxiliary rockets to assist aircraft take-off were studied and, in particular, the effect of inertial forces on the rocket mounting angle was analyzed. In addition, rocket thrust programming was considered for the time period immediately after take-off. The analysis is based on the assumptions that the rocket thrust P is constant and is directed parallel to the aircraft axis, the take-off angle is constant, the air density and the drag and lift coefficients C_x, C_y remain constant, and the ratio of aircraft speed V and propellant ejection

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L 4543-66

speed w is zero. The governing equations of motion for the aircraft are given by

$$\begin{cases} P + R\cos\varphi - Q - G\sin\Theta = \dfrac{G}{g}\dfrac{dV}{dt}; \\ Y + R\sin\varphi - G\cos\Theta = 0, \end{cases}$$

and the rate of mass loss by

$$\frac{dG}{dt} = -\frac{g}{w}R.$$
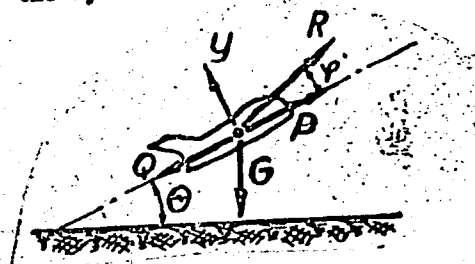
Figure 1 is a schematic of the system under study.

Fig. 1.

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L 4543-66

ACC NR: AT5023188

These first order differential equations for the unknown functions G, V, φ, R are discussed in the framework of variational calculus using the concept of Lagrange multipliers and the Euler equations. Three special cases are studied in detail. Case one assumes φ very small ($\leq 10°$) and V = const. Case two assumes φ = const, G = G_0 = const everywhere except in the first and second derivatives of G.

Finally, case three assumes R to be given as a known function of time, and φ is very small. The equations are solved in closed form, and expressions are derived for the mounting angle φ and the thrust R of the rocket. Each result is discussed in detail. For example, it is shown that in case one for all practical take-off angles, R and φ vary within a wide range of limits, even if one assumes $0 < \varphi \leq 10$. Also, for a given R = f(t) and ΔV_2 an angle φ = const can be found for each angle θ_1. Orig. art. has: 59 equations and 10 figures.

SUB CODE: AC,GM,PR/SUBM DATE: 16Feb62/   ORIG REF: 003/   OTH REF: 000

Card 3/3

POLKOVNIKOV, V.S., kand.tekhn.nauk; SEMENOV, L.N., inzh.; BORISOV, Yu.M.,
        kand.tekhn.nauk

Remote control of hoisting cranes (to be concluded). Vest.mash.
41 no.10:17-20 0 '61.   (MIRA 14:10)
        (Cranes, derricks, etc.)   (Electronic control)

POLKOVNIKOV, V.S., kand.tekhn.nauk, dotsent; SEMENOV, L.N., inzh.;
BORISOV, Yu.M., kand.tekhn.nauk, dotsent

Remote control of cranes. Vest.mash. 41 no.11:25-33 N '61.
(MIRA 14:11)
(Cranes, derricks, etc.)
(Remote control)

7,3277
17.5470 (1089, 1159, 1139)

29335
S/122/61/000/010/003/011
D221/D304

AUTHORS: Polkovnikov, V.S., Candidate of Technical Sciences,
             Semenov, L.N., Engineer and Borisov, Yu.M., Candidate
             of Technical Sciences

TITLE: Remote control of hoisting cranes

PERIODICAL: Vestnik mashinostroyeniya, no. 10, 1961, 17 - 20

TEXT: Remote control employs several generators of sonic frequen-
cies, operated by coded switches or by a special control apparatus.
Frequency modulation is prefereable due to smaller power require-
ments and lesser sensitivity to interference. The prototype was de-
veloped and made in the Laboratory of Hoisting and Transporting ma-
chines of MVTU im. Bauman, and applied to a 10 ton crane. It is ba-
sed on a portable transmitter O2P2(ЖР-4П) (O2R2(ZhR-4P)), which
produ   FM signals in the band of 36-46 Mc. The prototype uses
carrie frequency of 42.75 Mc, power of transmitter is 0.1 watt,
ensuring a reliable connection within 0.5- 1 km. The antenna is
formed by a 145 cm flexible rod. A detailed description of trans-

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Remote control of hoisting cranes

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mitter is given in the makers' instructions (Footnote references
Radiostantsiya tipa ZhR-4P. Kratkoye opieaniye i instruktsiy o
ekspluatatsii, remontu i nastroike. Sovet narodnogo khozyaystva
BSSR, 1958). The source of sonic frequencies is made up of RC gene-
rators, due to their stable frequency characteristics as well as
good wave form, simple design and operation. The one valve gene-
rator with a phase modulating circuit is illustrated in Fig. The
amplification includes the positive feedback of modulating circuit
consisting of R_1, R_2, R_3, C_1, C_2 and C_3. The basic diagram
of sonic frequency generators is shown in Fig. which uses
subminiature valves, 2Zh15E (2Zh15B), heated by 2.5 v and with
an anode current of 1.5 ma at 60 v. Two sonic frequency channels
are used. An emergency channel is used for no-voltage protection.
Another channel is used for switching on an audible signal. In the
case of a crane with three mechanisms and a lifting magnet it is
necessary to have 10 channels. Multi-pulse binary code can be used
to reduce the number of sonic frequencies required for transmitt-
ing signals to electric motors. The block has 6 generators. Those
with two fixed frequencies feed the controls of motors and the
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Remote control of hoisting cranes

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electromagnet, whereas the generators with one frequency feed the emergency channel. The former have two resistance branches in the last loop of phase modulation. A buffer cascade (valve 7Л (7L)) is employed as load match for generators, and its output of 1v is fed to the modulator of the transmitter. Connection of generators or resistances of phase modulating circuit is ensured by contactors KH1, KB1, ..., KA, push buttons or lever switches mounted on the control pnael. Electrical interlocking with emergency switch as well as for changes in rotation of crane motor is ensured by micro-switches. The emergency signal can be fed when the control panel is in zero position. The controller produces signals of inadequate length during fast movements of handle. The prototype used telephone jacks for operating the controller, thus eliminating the complicated system of electrical and mechanical interlocks. Its drawback is that only visual observation allows the position of controller to be determined. Power supplies are provided by an alkaline battery, 2 Н-4 (2ZhN-4) which is sufficient for 5 hours work. Anodes and grids are fed by crystal triodes, ᴨᴈ-B (PZ-V) forming a convector, with a bridge circuit with four diodes, ДГ-Ц24 (DG-Ts24)

Card 3/5

Remote control of hoisting cranes

?9338 S/122/61/000/010/003/011
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and a rectifier (half-wave) diode , 2B (D2V). The end of the arti-
cle is to follow in the next issue. There are 7 figures.

Fig. 4. Resistance-capacitance generator.

Legend: 1 - C_{out}.
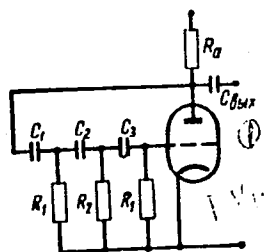
Рис. 4. Реостатно-емкостный
генератор.

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D221/D304

Temote control of hoisting cranes

Fig. 5. Basic diagram of block of sonic frequency generators.

Legend: 1 - Common; 2 - output; subscripts A - output.
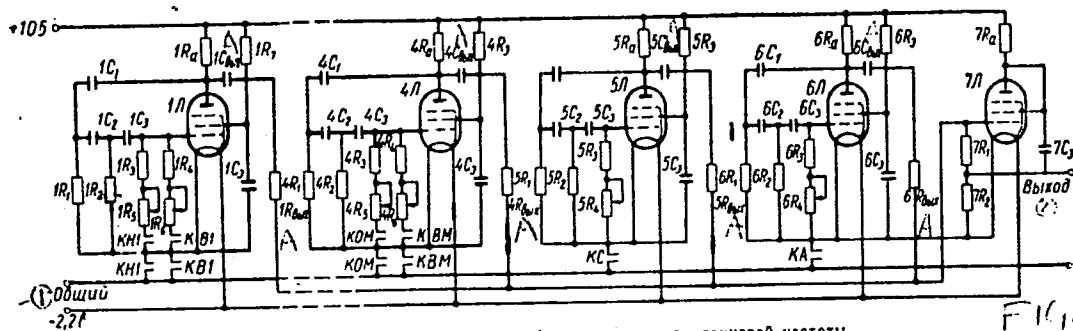
Рис. 5. - Принципиальная - схема блока -генераторов -звуковой частоты.

Card 5/5

POLKOVNIKOV, V.S., kandidat tekhnicheskikh nauk, dotsent.

Study of the operation of multiroller bearing rotating devices for cantilever cranes. [Trudy] MVTU no.63:36-66 '55.   (MLRA 9:7)
(Cranes, derricks, etc.)

VOLKOV, Dmitriy Pavlovich,; POLKOVNIKOV, V.S., kand. tekhn. nauk, retsenzent,; MALEYEV, A.S., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Dynamic loads in universal excavating cranes; testing and principles of designing] Dinamicheskie nagruzki v universal'nykh ekskavatorakh-kranakh; issledovaniia i osnovy rascheta. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 267 p.
(MIRA 11:11)

(Excavating machinery)

PCLAGYN/ACV 1.3.

NIKOLAYEVSKIY, G.M., kandidat tekhnicheskikh nauk; ALEKSANDROV, M.P.,
kandidat tekhnicheskikh nauk; AKSENOV, I.P., kandidat tekhnicheskikh
nauk; MEKLER, A.G., kandidat tekhnicheskikh nauk; SPITSYNA, I.O.,
kandidat tekhnicheskikh nauk; ZORINA, Z.M., inzhener; VOROBKOV, G.N.,
inzhener; IVASHKOV, I.I., kandidat tekhnicheskikh nauk; POLKOVNIKOV,
V.S., kandidat tekhnicheskikh nauk; MODEL', B.I., tekhnicheskiy
redaktor

[Calculations for crane mechanisms and parts for hoisting and
conveying machines] Raschety kranovykh mekhanizmov i detalei
pod"emno-transportnykh mashin. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1957. 435 p.   (MIRA 10:8)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut pod"yemno-
transportnogo mashinostroyeniya
        (Cranes, derricks, etc.)

POLKOVNIKOV, V.S., kandidat tekhnicheskikh nauk.

On the stability of tower cranes. Mekh.stroi. 13 no.9:16-17
Jl '56.
(Cranes, derricks, etc.)
(MIRA 9:11)

POLKOVNIKOV, Yu.

Sun vitamins. IUn.tekh. 7 no.11:37-39 N '62.   (MIRA 15:12)
      (Radiobiology)   (Agricultural research)

POLKOVNIKOV, Yu.

Can we sow in winter? IUn. nat. no.1:14-15 Ja '62. (MIRA 15:1)
(Sowing) (Field crops)

Polkovnikova, A. G.

Distr: 4E4J/

Glycerol. P. G. Sergeev, L. M. Bukreeva, and A. G. Polkovnikova. U.S.S.R. 177,762, Oct. 25, 1957. Glycerol is obtained by oxidation of allyl alc. with H_2O_2 in the presence of H_2WO_4. For best results, an aq. soln. of allyl alc. is oxidized at ordinary temp. with H_2O_2 to glycidol and the latter is sapond. to glycerol by heating the soln. to 70°.
.M. Hosch

POLKOVNIKOVA, A.G.; KRUZHALOV, B.D.; SHATALOVA, A.N.; TSEYTINA, L.L.

Catalytic oxidation of propylene to acrolein in the presence
of inert diluents. Kin.i kat. 3 no.2:252-256 Mr-Ap '62.
(MIRA 15:11)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov.
          (Propene)   (Acrolein)   (Catalysis)

POLKOVNIKOVA, A.G.; SHATALOVA, A.N.; TSEYTINA, L.L.

Preparation of acrolein by catalytic oxidation of propylene.
Neftekhimiia 3 no.2:246-253 Mr-Ap '63.   (MIRA 16:5)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov.
                        (Acrolein) (Propene) (Oxidation)

SERGEYEV, P.G., [deceased]; BUKREYEVA, L.M.; POLKOVNIKOVA, A.G.

Isomerization of propylene oxide. Khim.nauka i prom. 2 no.1:133
'57.   (MLRA 10:4)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh productov.
                        (Isomerization) (Propylene oxide)

SERGEYEV, P.G.; BUKREYEVA, L.M.; POLKOVNIKOVA, A.G.

Synthesis of allyl alcohol by isomerization of propylene oxide.
Zhur. prikl. khim. 31 no.9:1415-1419 S '58.   (MIRA 11:10)
    (Allyl alcohol)   (Propylene oxide)

POLKOVNIKOVA, A. P.

Karakul Sheep - Tannu Tuva

Karakul raising in Tuva Province Kar. i zver. 5, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1953, Uncl.

POLKOVNIKOVA, A. P.

POLKOVNIKOVA, A. P. -- "Measures for Raising the Productivity of Astrakhanoid Sheep in Tuvinsk Oblast." All-Union Sci Res Inst of Animal Husbandry, Moscow, 1955 (Disserta-tion For the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya letopis', No. 37, 3 September 1955

POLKOVNIKOVA, G.A., inzh.

Shortening the time for the heat treatment of keramzit
concrete by electric curing. Trudy GISI no.47:37-47 '64.
(MIRA 18:11)

POLKOVNIKOVA, K. I.

PA 14/49T42

USSR/Medicine - Erythrocytes   Jul/Aug 48
Medicine - Osmosis and Permeability

"Observations on the Resistance of Regenerative and
Degenerative Forms of Erythrocytes to Osmosis,"
K. I. Polkovnikova, Chair of Pathophysiol, Tomsk
Med Inst imeni V. M. Molotov, 6 pp

"Arkhiv Patolog" Vol X, No 4

Basic faults of previous work have been lack of
dynamic data on erythrocyte count according to
various forms and sensitivity. Purpose was to
obtain sufficient data to differentiate immature and
degenerative forms of erythrocytes on graphs, also

14/49T42

USSR/Medicine - Erythrocytes (Contd) Jul/Aug 48

for maximum and minimum resistance to osmosis.
Submitted 17 Apr 47.

14/49T42

POLKOVNIKOVA, K. I.

Nervous System

Role of nervous system in the pathogenesis of hemolytic anemic, Arkhiv pat., 14, No.2, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, Unclassified

USSR/Medicine, Veterinary - Infectious   Jun 52
                    Diseases

"Aluminum Hydroxide Formol Vaccine Against Infec-
tious Pleuropneumonia of Goats," P. S. Polkovni-
kova, S. P. Ivanov, I. I. Smirnov, Laureates of
Stalin Prize

"Veterinariya" No 6, pp 20-23

Authors quote statistics showing that infectious
pleuropneumonia is a leading disease of goats,
causing a greater loss of these animals than other
epizootics. In an effort to remedy this situation,
authors obtained laboratory strains of the virus
from goats, developed a method of preserving the
potency of the virus by passing it through recep-
tive animals after a planned contamination, and
claim to have obtained a 100% efficient vaccine.
They describe the prepn of the aluminum hydroxide
formol vaccine by an adsorption of the specific
virus on an inorganic colloid followed by inac-
tivation of the virus with the min amt of forma-
lin needed.   The components of this vaccine are:
aluminum Hydroxide, phosphate buffer soln
(ph = 8.34) virulent matter, and formalin. Au-
thors consider this vaccine a harmless bio-prepn
rapidly producing a persistent immunity, effective

(2)   228T40

POLKOVNIKOVA, P. S.

③

in animals for a period of no less than a yr.
Vaccination with this prepn is expected to create
a wide belt of animals immunized to infectious
pleuropneumonia, and eliminate epizootics of this
disease. Work on this vaccine was based on ex-
perience acquired in the prepn of similar vac-
cines against smallpox of sheep, foot-and-mouth
disease, and the 'pseudo-pest of fowl.

(2)

228T40

Country   : USSR
                                                                F
Category   : Microbiology-Antibiosis and Symbiosis. Antibiotics

Abs. Jour   : Ref Zhur - Biol., No.19, 1958, 86021

Author   : Polkovnikova, A.S.; Finkel', Te.A.; Yefimova, V.A.
Institut.   : Kirgiz Scientific Research Institute of Animal*
Title   : The Problem of the Effect of Streptomycin and Phth-
                  ivaside on Mycobacterium tuberculosis of the Avian
                  Type (First Report)
Orig Pub.   : Byul. nauchno-tekh. Inform. Kirg. N.-I. In-t Zhiv-
                  otnovodstva i Vet., 1956, No.1-2, 5-61

Abstract   : The natural resistance of cultures of avian tuber-
                  cle bacilli cultures to streptomycin in Gelberg's
                  medium is very high, and complete accomplishment
                  of restraint of growth is seen only in media which
                  contain streptomycin in concentrations of 5000 un-
                  its per ml. Phthivaside induces a complete cessa-
                  tion of growth of the cultures in concentrations of
                  40 to 200 gamma/ml. - L.M.Bonel'

                  * Husbandry and Veterinary Medicine   .

Card: : 1/1

POLKOVNIKOVA, Rausa Stepanovna; PUZYNO, Viktoriya Aleksandrovna

[Fowl pest] Chuma ptits. Frunze, Kirgizskoe gos. izd-vo, 1955. 18 p.
(Poultry—Diseases and pests)   (MLRA 9:12)

POLKOVNIKOVA, R. S.: Doc Vet Sci (diss) -- "The etiology, pathogenesis, and

immunoprophylaxis of infectious pleuropneumonia of goats". Moscow, 1958.

34 pp (Min Agric USSR, Moscow Vet Acad), 140 copies (KL, No 2, 1959, 123)

USSR/Microbiology- Microbes Pathogenic for Man and Animals.   F
         Bacteria. Mycobacteria.

Abs Jour   : Ref Zhur Biol., No 22, 1958, 99524

Author   : Polkovnikova, R.S., Yefimova, V.A., Yegoshin, I.S.

Inst   : Kirgiz Scientific Research Institute of Animal Husbandry
         and Veterinary Science

Title   : On the Problem of Vaccine Strains Against Avian
         Tuberculosis

Orig Pub   : Byul. nauchno-techn. inform. Kirg. n.-i. in-t zhivotno-
         vodstva i veterinarii, 1958, No 1, (3) 52-54

Abstract   : No abstract.

Card 1/1

POLKOVNIKOVA, V. P., Cand. Medic. Sci.   (diss) "Effect of Radia-

tion Generated by Betatron of 25 Mev on Heart Muscle," Tomsk,

1961, 13 pp. (Novosibirsk Med. Inst.) 250 copies (KL Supp 12-61,

287).

POLKOVNIKOV, V.S., kandidat tekhnicheskikh nauk.

How the crane boom adjusting mechanism works. Mekh.stroi.11 no.12:
26-29 D '54.   (MLRA 8:1)
        (Cranes, derricks, etc.)

POLKOVNIKOVA, V.P.

Electrocardiographic changes in guinea pigs dying from rays
generated in a 25 MeV betatron. Med.rad. no.6:63-67 '61.

(MIRA 15:1)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. D.D. Yablokov)
i kafedry petologicheskoy anatomii (zav. - prof. I.V. Toroptsov)
Tomskogo meditsinskogo instituta.
     (ELECTROCARDIOGRAPHY)   (BETATRON)
     (RADIATION—PHYSIOLOGICAL EFFECT)

POLKOVNIKOVA, V.P.

Electrocardiographic changes in rabbits in acute radiation
sickness produced by radiations emitted by the 25 Mev betatron.
Med.rad. 6 no.3:26-30 '61.   (MIRA 14:5)
     (RADIATION SICKNESS)   (ELECTROCARDIOGRAPHY)

NIKOL'SKAYA, L.F.; POLKOVNIKOVA, Ye.F.

Where Lenin lived.   Geog. v shkole 25 no.4:5-15 Jl-Ag
'62.   (MIRA 15:8)
              (Lenin, Vladimir Il'ich,1870-1924—Homes and haunts)

POLKOVNIKOVA, (.Ye.

Polkovnikova,Ye.Ye. "Results of various experiments with fodder grasses", Trudy Resp. botan. sada (Akad. nauk Kazakh. SSR, Vol. 1, 1948, p. 35-56.

SO: U-3042, 11 March 53, (Letopis ' ykh Statey, No. 9, 1949)

SHIRANOVICH, P.I (Rostov-na-Donu); IVANOV, K.A. (Rostov-na-Donu); POLKOVOVA,
Ye.N. (Rostov-na-Donu); CHIVELOV, V.I. (Rostov-na-Donu)

Fleas in human dwellings in Caspian Lowlands. Med.paraz.i paraz.bol.
33 no.4:494-495 Jl-Ag '64.   (MIRA 18:3)

POLKOVOY, O.S.

CP

8

Formation of vein rocks of acid intrusions. O. S. Polkovol. Trudy Inst. Geol. Nauk, Akad. Nauk S.S.S.R. No. 107, Petrog. Ser. No. 31, 53-63(1950).—The processes involved in the formation of veins was studied in the Central Kazakhstan and the results are discussed.   M. Hosch

POLKVOY, O.S.

Petrography of the "Saiga" molybdenum field. Trudy IGEM no.21:49-69
' 58.   (MIRA 12:1)
        (Ul'kanda Mountains--Petrology)

POLEVOY, O.S.

Petrographic characteristics of Bet-Pak-Dala Devonian massifs of various ages. Biul. MOIP. Otd. geol. 33 no.3:147 My-Je '58.
(MIRA 11:11)

(Bet-Pak-Dala -- Petrology)

KINVOY, C. L.

USSR/Geophysics - Granite Intrusions   May/Jun 52.

"Granophyres of Eastern Kounrad," O.S. Polkvoy

"Iz Ak Nauk, Ser Geolog" No 3, pp 71-75

Author describes granophyres, which show the result
of substitution of effusions under action of in-
trusion of granites.

220T61

POLKVOY, O.S.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Mineralogical and Geological Chemistry

Contact phenomena in the Aksoransk granite body.
O. S. Polkvol. *Izvest. Akad. Nauk S.S.S.R., Ser. Geol.*
1953, No. 4, 30-44.—A characterization of the diverse
end products of the contact interrelation of rock coverings
and magmas of the Aksoransk granite intrusion. Con-
clusions were made concerning the detg. roles of regional
conditions during processes of hybridism and assimilation.
Three photomicrographs and several tables of mineralogical
compns. are included.   Gladys S. Macy

Polkvoy O S

KOPTEV-DVORNIKOV, V.S.; POLKVOY, O.S.

Intrusive granitoid complexes of the Paleozoic in Bet-Pak-Dala. Sov.
geol. no.51:27-44 '56.   (MIRA 10:4)
                    (Bet-Pak-Dala--Rocks, Igneous)

POLKOVOY, P.A.

Datolite and plazolite from skarn deposits. Izv. vys. ucheb.
zav.; geol. i razv. 8 no.9:79-84 S '65.   (MIRA 18:9)

1. Severo-Kavkazskiy gornometallurgicheskiy institut.

POLKOVOY, P.A

Distr: 4E2c

422. **Magnesite refractories during service in Waelz furnaces.**—A. M. DAVIDYN, P. A. POLKOVOJ, and G. A. RASHIN (*Ogneupory*, 22, 417, 1957). In Russian. The main cause of the short life of chrome-magnesite refractories in Waelz furnaces (for producing ZnO) is the action of the acid Fe- and Ca-silicates on the spinel-forsterite bond. The chemical destruction of the bond in the refractory proceeds in two main directions. By migration of Fe oxides from the surface, with consequent formation of low-melting compounds; and as a result of the increase in the acidity of the cementing-material in the reaction zone. Part of the forsterite bond is converted into pyroxenes (enstatite and Ca–Mg–Fe pyroxene). Under the influence of the same silicate mass the refractory spinels of the bond are replaced by fusible silicates, which also attack the periclase grains. The greatest resistance to the silicate is shown by the chromite grains. The above processes of attack take place only in the reaction zone. In the cooler part of the bricks there is only a redistribution of iron oxides with solid solution of magnetite in the periclase. Breakdown of the chrome-magnesite linings is also promoted by the non-uniformity of the crystalline structure, particularly by the irregular distributions of mineral phases throughout the bricks. (5 figs., 5 tables.)

DAVIDSON,A.M.; POLKOVOY,P.A.; RASHIN,G.A.

The wear of chrome-magnesite refractories in the "velt's" furnace. Ogneupory 20 no.3:125-132 '55. (MIRA 8:8)

1. Severo-Kavkazskiy gorno-metallurgicheskiy institut (Metallurgical furnaces) (Refractory materials)

POLKOVOY, P.A.

The reactions that bring about the deterioration of the chrome-magnesite linings of roller furnaces. A. M. David-son, P. A. Polkvol and G. A. Rashin. *Ogneupory 22,* 300-12(1957); cf. *C.A. 50, 10361g;* Karyakin, 51, 12768i.— Chem. and petrographic studies of the scale adhering to the chrome-magnesite linings of the active zone of roller furnaces show that silicate melts contg. Fe and Ca, acid in character, react with the refractory lining to form low-fusing compds. and lead to its disintegration. Supplementary damage is caused by the migration of Fe oxides to form low-fusing spinels and silicates. Under the high-temp. working con-ditions of the furnace, heat resistance of the refractory falls. The mineral components of the furnace charge (chrome-Fe) penetrate the lining to an insignificant extent only and have no effects on its failures. _____ H. L. Olin

POLKVOY, P. A.

Chemistry of the disintegration of chrome-magnesite refractories during their use in Welsh furnaces. A. M. Davidson, P. A. Polivoi, and G. A. Rashin. Davenport 22, 417-25(1957); cf. C.A. 50, 10361g.—In a continuation of earlier work, samples of bricks from the furnace arch taken at 2- to 3-m. intervals from the 7-m. to the 23-m. point were subjected to chem. and mineralogical (thin section and immersion) analysis with respect to the chem. content of (a) the scale, (b) the bricks in the reaction zone, and (c) the bricks before being put into service. In all cases a marked migration of SiO_2 was observed as indicated by av, a, b, and c compns. of 28.4, 8.3, and 5.5, resp. Little or no change in Al_2O_3 occurred as shown by the nearly const. percentage values of 9.5, 8.3, and 8.6 in the 3 zones. Especially marked was the penetration of Fe_2O_3, viz., 47.1, 18.8, and 10.0. Av. Cr_2O_3, MgO, and CaO contents were c 26.3, 47.2, and 0.57; b 23.8, 39.4, and 1.30; c 0.90, 4.10, and 10.20. Mineralogical examn. of samples taken at 16 m. from the burner section of the furnace showed the presence of angular grains of chromite, 0.5-1.2 mm., relies of the oval granules of periclase and spaced between them, clots of agglomerated magnesoferrite, and skeletons of regenerated silicate minerals. Other photomicrographs show the structures of the contact zone between the scale and the refractory and of the regenerated chromite.

H. L. Olin

POLKOVSKAYA, YE. S.

USSR/Petroleum - Refining
            Kerosene
                                               Au 49

"Hydrocarbons of the Naphthalene Series in Surakhany Petroleum," S. S. Nametkin, Acad
Ye. S. Polkovskaya, T. G. Stepantseva, Petroleum Inst, Acad Sci USSR, $3\frac{1}{4}$ pp

"Dok Ak Nauk SSSR" Vol LXVII, No 5

Prepared naphthalene and its methylated homologues (beta-methylnaphthalene and 1,6-dimethyl-
naphthalene) from the kerosene fractions of light Surakhany oily petroleum by a method
developed in Rumanian oil fields. Added picric acid to fractions of this highly aromatic
kerosene (specific weight, $d_4^{20} = 0.8432$ and coefficient of refraction, $n_D^{20} = 1.4680$) in
an ether solution. Isolated the naphthalenes in subsequent "boiling off" stages, in
temperature ranges of from $190°$ to $252°$ C — naphthalene itself in the lowest ranges and
1,6-dimethylnaphthalene in the highest. Pictates are by-products of the processes.
Submitted 13 Jun 49.

PA 66/49T90

POLKOVSKIY, I. M.

"Application of Devices with a Thermistor for Measuring the Levels of Noise and Speech," a report read at the conference of the Acoustics Commission AS USSR held in Leningrad 1-3 Feb 51.

W-21610, 25 Feb 52

Polkouskiy, I.M.

534.833 : 534.75   965
   Apparatus for the Protection of the Hearing from
the Damaging Effects of Noise.—I. M. Polkovski.
(Akust. Zh., July-Sept. 1955, Vol. 1, No. 3, pp. 249-256.)
Low-pass mechanical sound filters to be worn over the
ears are described. Their attenuation is low up to
1 kc/s but increases rapidly to about 35 dB at 3·5 kc/s.

24245

S/193/61/000/006/006/007
A004/A104

21.5740

AUTHORS: Lokhanin, G. N., and Polkovskiy, M. A.

TITLE: Trucks for the removal of radioactive waste

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 6, 1961, 68-71

TEXT: The authors report on some pilot models of trucks for the removal of radioactive waste developed by the Konstruktorskoye byuro Upravleniya blago-ustroistva Moskvy (Designing Office of the Moscow Administration of Public Services and Amenities). The OT2 truck is intended for the transportation of solid alpha- and beta-active waste and consists of the following units: chassis of the ГАЗ-93 (GAZ-93) truck, superstructure with dumping mechanism, body with lateral and rear doors and the hydraulic power system. The body is an all-metal welded structure of stainless steel reinforced by special sections and with six charging hatches. The front wall of the body is equipped with a 15 mm lead screen sheathed from two sides by stainless steel to protect the driver. The truck is unloaded by tipping the body over to the rear. The ОЖ1 (OZh1) truck is intended for the mechanized loading, transportion and unloading of liquid alpha- and beta-active waste, and is built on the base of the ГАЗ-51 (GAZ-51A) chassis.

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Trucks for the removal of radioactive waste

A tank of 1.75 m^3 holding capacity is mounted on the truck at an angle of 4° to ensure a complete unloading of the liquid. The tank is loaded by producing a rarefied atmosphere in its interior. For the visual control of the tank filling two observation windows are fitted to the rear of the tank. The tank is emptied by a drain valve located at the rear. For the decontamination of the tank two sprayers are provided for in the tank interior. Tank, pipings and valves are made from stainless steel, while the suction and drain hoses are of acid and alkali-resistant rubber. A 15 mm lead screen protects the driver from radiation. The OZ2 (OZh2) truck is intended for the transportation of liquid gamma-active waste. It is built on the base of the ЗИЛ-164 (ZIL-164) chassis and fitted with a cylindrical tank of 1 m^3 holding capacity made of stainless steel. To protect the driver from radiation the tank is placed in a cast iron jacket. A safety valve, signalling device, suction and flushing pipes are mounted on the tank manhole cover. The safety valve cuts off the suction line when the tank is filled so as to prevent the liquid from getting into the engine. The signalling device sounds a signal and cuts off the engine simultaneously when the tank is filled up to a given level. Drain and shut-off valves and the suction rubber hose are placed in a heat-insulated box mounted on the chassis at the truck rear end. The table shows the technical specifications of the above trucks. There are 2 figures and 1 table.
Card 2/3

24245
S/193/61/000/006/006/007
A004/A104

Trucks for the removal of radioactive waste

Table:
1) indices; 2) truck model; 3) load capacity, kg; 4) loading height of the
lateral hatches, mm; 5) angle of inclination during dumping, degrees; 6) total
and useful holding capacity of the body (flush with the side walls) m³; 7) tank
holding capacity, m³; 8) maximum rarefication produced in the tank, %; 9) over-
all dimensions, mm; a) length; b) width; c) height; 10) weight (loaded),
kg.

1) Показатели	2) Типы автомобилей		
	ОТ2	ОЖ1	ОЖ2
3) Грузоподъемность, кг	1600	1500	1000
4) Высота загрузки в боковые люки, мм	1550	—	—
5) Угол наклона кузова при разгрузке, град.	50	—	—
6) Емкость кузова полная и полезная (вровень с бортами), м³	3,3 и 2,4	—	—
7) Емкость цистерны, м³	—	1,75	1,0
8) Максимальное разрежение, создаваемое в цистерне, %	—	50	50
9) Габаритные размеры, мм:			
а) длина	5050	5850	6060
b) ширина	2140	2240	2410
c) высота	2000	2510	2630
10) Вес (с грузом), кг	4870	5115	9170

Card 3/3

POLKOVSKIY, M.A.

KOZHINOV, V.F., kand.tekhn.nauk; red.; ZASOV, I.A., kand.tekhn.nauk,red.;
GUSYATINSKIY, A.I., red.; POLKOVSKIY, M.A.,red.; KHRISTENKO, V.P.,
red.izd-va; VOLKOV, S.V., tekhn.red.

[New engineering equipment for municipal services] Novaia
tekhnika v gorodskom khoziaistve. Moskva, Izd-vo M-va kommun.
khoz.RSFSR, 1957. 215 p.   (MIRA 11:1)

1. Akademiya kommunalnogo khozyaystva, Moscow.
      (Municipal engineering--Equipment and supplies)

POLKOVSKIY, Mikhail Abramovich; BEREZANTSEV, Boris Borisovich; KARABAN, G.A.,
redaktor; KHRISTENKO, V.P., redaktor izdatel'stva; PETROVSKAYA, Ye.S.,
tekhnicheskiy redaktor

[Machines, mechanisms and installations for cleaning cities; a
catalog] Mashiny, mekhanizmy i sooruzheniia dlia sanitarnoi ochistki
gorodov; katalog. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1957.
113 p.   (MIRA 10:9)
        (Street-cleaning machinery)   (Refuse and refuse disposal)

POLKOVSKIY, Iosif Meyerovich; NIKULIN, S.K., inzh., red.

[Stabilized transistor amplifiers] Stabilizirovannye usilitel'nye ustroistva na tranzistorakh. Moskva, 1965. 213 p.
(MIRA 18:4)